



## The Determinants of The Successfully Completing Primary Immunization Program in Empat Lawang Regency South Sumatera

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### Article

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### Abstract

This study aims to explain the complete primary immunization (Y) and how much the determinants of health infrastructure factors ( $X_1$ ), health budget support ( $X_2$ ), quality of vaccines and equipment ( $X_3$ ), and implementing personnel ( $X_4$ ), Partially and simultaneously, affect Y. The method used is explanatory quantitative. The study locates at the Pendopo Barat and Talang Padang Community Health Centers with a sample of 48 people (5%) based on proportionate stratified random sampling. The results reveal that (1) Partially,  $X_1$  affected Y, with r-count  $X_1Y(2.731)$ ;  $X_2$  had no effect on Y, with r-count  $X_2Y(1.435)$ ;  $X_3$  had no affected Y, with r-count  $X_3Y(0.380)$ ;  $X_4$  affected Y, with r-count  $X_4Y(3.322)$ , (2) Simultaneously, the variables  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$  affected Y, with F-count value(6.029). The research implies an urgent calibration for the equipment, besides the need to increase the quantity of immunization equipment.

**Keywords:** Vaccine; Factors; Immunization Equipment; Budget Management

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### Introduction

The problem of achieving primary immunization coverage appears from the targets and achievements obtained. Wulansari & Nadjib's (2019) research showed that complete primary immunization (IDL) coverage reached 57.9% nationally. Specifically, data from Empat Lawang Regency, South Sumatra Province, in a series from 2020 to 2018, reported that the achievement of the number of villages covered by Universal Child Immunization (UCI) has always been below the target of 100% and even below 85%.

In detail, the achievement was 53.21% in 2020, 78.85% in 2017, and 80.13% in 2018 (Dinkes, 2019), indicating the performance of achieving the number of children/infants immunized, as in the figure below.

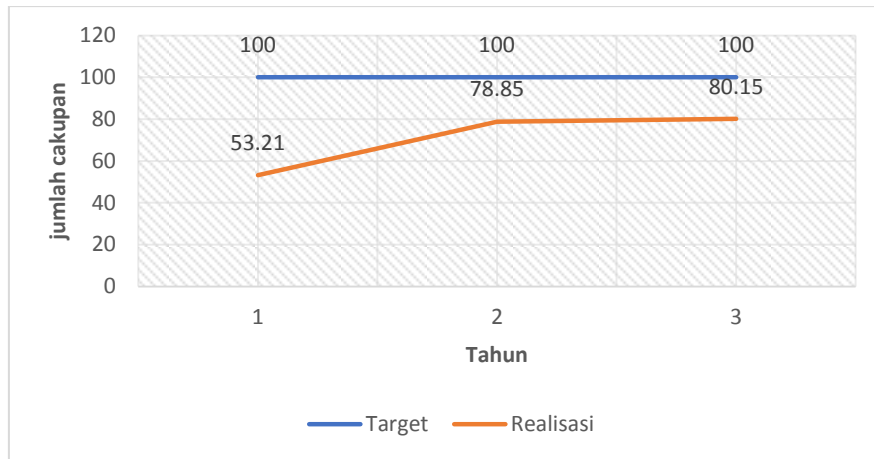


Figure 1. Graph of Universal Child Immunization Coverage in Empat Lawang Regency from 2020 to 2018

Source: Empat Lawang District Health Office Strategic Plan, 2019 (elaborated)

Meanwhile, the target for increasing UCI in Empat Lawang Regency is from the initial condition (in 2018) of 78.83% to 92% at the end of the Regional Medium-Term Development Plan (RPJMD) (2023). Like the UCI coverage target, the IDL increase achievement target is 92% at the end of the RPJMD year (2023), with the initial condition (in 2018) of 78.8%.

Previous studies of primary immunization programs focused on socio-economical status from motherhood side in urban areas (Razzaque et al., 2022; Greyson & Bettinger, 2022; Buser et al., 2020). Research on the determinants (influencing factors) of the success of the primary immunization program in rural area as Empat Lawang Regency has never been carried out and still becomes rare in public policy discourse .

However, these factors are the reality of the field, where the policy's success is required. The successful policy and its implementation should also be assessed based on what is happening on the ground and comes from those who most influence policy (Elmore, 1979). For this reason, research on immunization implementation in the West Pendopo and Talang Padang Sub-district is urgent to be carried out. The study, therefore, reveals how the conditions of immunization policy implementation are amid the challenges of achieving the goals of the primary complete immunization program in the region.

Further, this research article aims to explain the success rate of the IDL program and how much influence the health infrastructure, the health budget support, the vaccine quality and equipment facilities, and the implementing personnel factors simultaneously on the implementation of the complete primary immunization program in the West Pendopo and Talang Padang Sub-district, Empat Lawang Regency, South Sumatra Province. Later, hopefully the description and the analysis can increase the understanding of the conditions of primary immunization policy implementation. Furthermore, it can be used as input in public decision-making, aside from being an academic recommendation on public policy management and public health.

## Research Method

However, the immunization policy implementation in Empat Lawang Regency related to the strategic plan is suspected of facing severe conditions and challenges. This condition is related to the health infrastructure condition and health budget support in Empat Lawang Regency. These two main issues must undoubtedly be considered as determinants affecting the success of immunization policy implementation.

Health infrastructure is a means of supporting achieving goals (Susilawati, 2019). The adequacy of health service infrastructure will affect immunization services (Susanti & Kadir, 2021). According to them, there is also a relationship between the distance to immunization services and the utilization of infant immunization service facilities at the Teppo Community Health Center, Patampanua Sub-district, in 2021. Moreover, based on its shape, infrastructure can be in the form of health facilities that are affordable to the community (Susanti & Kadir, 2021), vehicles (Susilawati, 2019), and information technology (Kusumawardani & Syukria, 2017).

Furthermore, budget support is vital to the success of health programs (Yulianti & Indriasih, 2018). At the Empat Lawang District Health Office, the dilemma of the lack of a health budget also

becomes a complaint (Dinkes, 2019). The budget support factor is also crucial for the smooth running of the immunization program. This factor is associated with financing immunization programs (Setyawan, Arief; Adi M, Sakundarno M.; Widijanarko, 2020). In addition, funding is essential since the IDL program is a subsidy (Yulianti & Indriasih, 2018). According to them, immunization funds in regencies/cities are generally used to finance the following components of activities: (1) immunization improvement; (2) vaccination/immunization services; (3) IEC improvement; (4) socialization; (5) monitoring and evaluation; (6) personnel training; (7) disease prevention network.

The third factor is the quality of vaccines and equipment. These factors include the availability of vaccines and the quality of vaccine storage and equipment needed to support the immunization program (Setyawan, Arief; Adi M, Sakundarno M.; Widijanarko, 2020). This factor also affects the success of the IDL program (Setyawan, Arief; Adi M, Sakundarno M.; Widijanarko, 2020). In addition, the quality of vaccines and equipment is related to the quality of vaccines so they can be appropriately used (Panjaitan, 2020).

The fourth factor is the implementer or immunization personnel, which determines program goals (Afrizal; Edison; Firdawati, 2020). In some places, immunization is only carried out by limited health personnel (Susilawati, 2019). From the perspective of Backward Mapping (Elmore, 1979), policy implementation is seen from the policy-implementing actors, who are the most capable of influencing policy in the field. What is meant is that the behavior of the implementing apparatus will affect the success of the complete primary immunization program. Immunization implementers, according to Rachmawati (2007), consist of the following aspects: 1) perceptions of leadership supervision, 2) perceptions of the availability of supporting facilities, 3) perceptions of the availability of vaccines and equipment, 4) perceptions of compensation, 5) employee motivation, 6) perception of workload, and 7) attitude of the personnel.

Based on the description of the implementation theory of the Synthesizer Perspective by referring to the Backward Mapping Model from Elmore and several research results (Yulianti & Indriasih, 2018; Susanti & Kadir, 2021; Setyawan, Arief; Adi M, Sakundarno M.; Widijanarko, 2020), the implementation of the complete primary immunization (IDL) program is elaborated as follows.

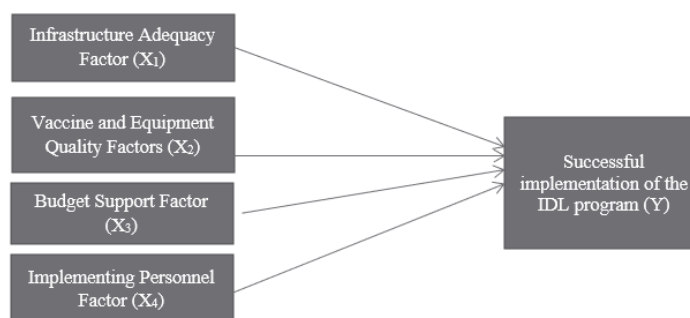


Figure 2. Backward Mapping Implementation Model on Complete Primary Immunization Program (IDL) Implementation  
Source: Concept Elaboration, 2022

Figure 2 explains that four factors directly influenced the success of the IDL program implementation: the infrastructure adequacy factor, the vaccine and equipment quality factor, the budget support factor, and the implementing personnel factor jointly (Yulianti & Indriasih, 2018). In this study, the five variables studied consisted of one dependent variable, i.e., the success of the complete primary immunization (IDL) program written with variable Y, and four independent variables: infrastructure availability ( $X_1$ ) variable, vaccine and equipment availability ( $X_2$ ) variable, budget support ( $X_3$ ) variable, and implementing personnel ( $X_4$ ) variable.

To examine the relationship between variables, we develop several hypotheses as follows: 1) H1: The infrastructure support affects the success of the IDL program positively and significantly; 2) H2: The availability of vaccines and equipment affects the success of the IDL program positively and significantly; 3) H3: The budget support affects the success variable of the IDL program positively and significantly; 4) H4: The implementing personnel affects the IDL program's success positively and significantly; 5) H5: Simultaneously, those determinants affect the IDL program's success positively and significantly.

The location of this research was in the West Pendopo and Talang Padang Sub-districts, with the object of two units of community health centers, three units of sub-health centers, and 21 units of village health posts. The population in this study was the overall implementer of the immunization program implementation at the sub-district level.

Meanwhile, the sample is a small part of the set of observation units that provide information or data needed for the study (Arikunto, 2006). The probability sampling technique with the type of proportionate stratified random sampling was based on the table of determination of the number of samples from Issac and Michael (Sugiyono, 2005). Based on the table, if the population is 55 with a degree of error of 5%, the sample members obtained are 48.

The research instrument developed had been tested for validity and reliability on 20 health workers at the UPTD Tebing Tinggi Community Health Center. The validity test was the correlated check item, the application of the Product Moment r-test technique, with the requirement  $df = 5\%$ . With a variable number of five units and a sample of 20 people,  $N=20-5=15$ , it was found that the  $r\text{-table} = 0.4821$ . The item test value for 25 items showed that the  $r\text{-count}$  value was more significant than the  $r\text{-table}$  (SPSS 20.0 Analysis - Attached Data). These results indicate the acceptance of the research instrument's validity (Sujarweni, 2014). Then, the reliability test used was based on the split-half technique. The split-half technique was done by the Spearman-Brown formula application.

According to Sarwono (2015), if the Gutman Split-Half value is  $> 0.80$ , the instrument is reliable; on the other hand, if the Gutman Split-Half value is  $< 0.80$ , the instrument is not reliable. The calculation results (attached) revealed the value of instrument items of  $> 0.80$ . Thus, the instrument items are declared reliable. The instrument validity and reliability test in this study was carried out with the help of the SPSS for Windows version 20.00 program package Results and Discussion.

## Results and Discussion

### Respondent Profile

The results of questionnaires from 48 UPTD Talang Padang and UPTD West Pendopo Community Health Center personnel, respectively, for the IDL program success variable (variable Y), infrastructure availability variable ( $X_1$ ), vaccines and equipment availability variable ( $X_2$ ), budget support variable (variable  $X_3$ ), and variable implementing personnel (variable  $X_4$ ) are explained by histograms and descriptions.

Variable Y demonstrates the perception of success of 88.45%. The indicators asked comprised the achievement of complete primary immunization coverage above 80%, the achievement of UCI program coverage above 80% of the village area, smooth functioning in the implementation of a completing primary immunization program, and compliance with the implementers of the completing primary immunization program. The following histogram describes respondents' perceptions of the Y variable.

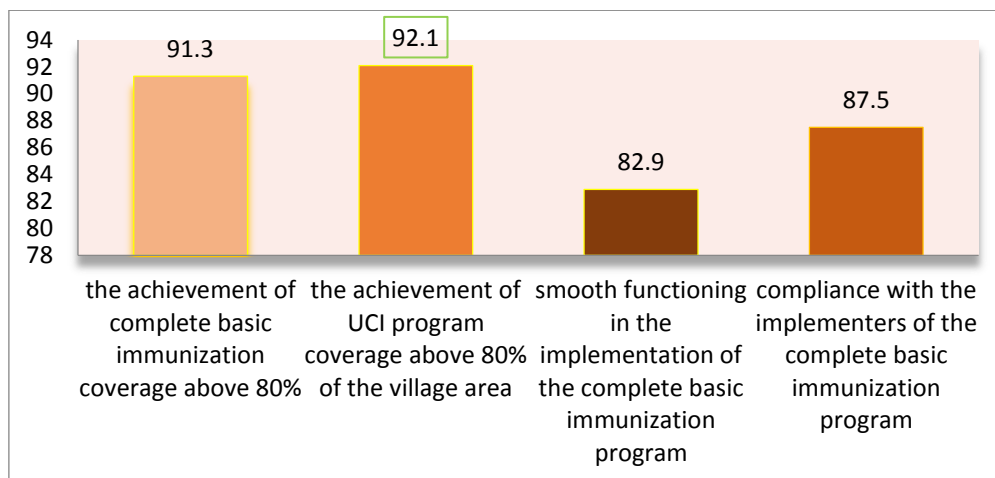


Figure 3. Histogram of IDL Program Success Variables in Talang Padang and West Pendopo Sub-districts  
Source: Primary Data, 2022

The perception of the achievement of the Y variable on average was above 80%. Perceptions of IDL coverage in rural areas were 92.1%, UCI achievement was 92.1%, an indication of problems occurring in the smooth functioning of the IDL program was 82.9%, and compliance of implementing personnel was 87.5%.

The availability of infrastructure (variable  $X_1$ ) consisted of questions about the affordability of health facilities, availability of official vehicles, and computer/network information technology support in IDL services. The  $X_1$  variable was also the respondent's perception of the availability and carrying capacity of the existing infrastructure for the IDL program. Respondents' perceptions of the  $X_1$  variable then showed a very positive assessment weight on average 90% of the maximum score.  $X_1$  variable data presented histogram as follows:

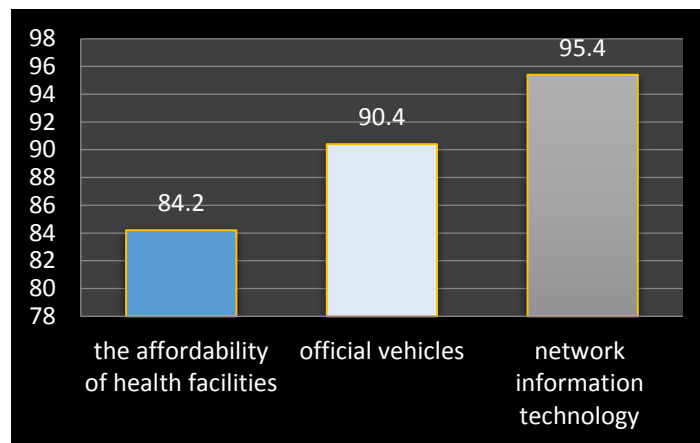


Figure 4. Histogram of Infrastructure Availability Variables  
Source: Primary Data, 2022

Variable  $X_1$  indicates that the availability of accessible health facilities had the lowest weight (84.2%), while the availability of official vehicles and information technology weighed above 90%.

Then, the variable availability of vaccines and equipment (variable  $X_2$ ) consisted of indicators: availability of all types of vaccines for IDL, guaranteed quality of vaccines, availability of vaccine storage equipment, and vaccine storage equipment working according to regulations. In this study, the four items showed a weight of 80.9%. It signifies that the average respondent perceived that the  $X_2$  variable had a very positive weight. In addition, bar histograms depict a very positive assessment of the availability of vaccine types (81.2%), vaccine quality (82.1%), quality of existing equipment (79.6%), and availability of vaccine storage equipment (80.8%). However, all items were below 85%. The availability of storage equipment is crucial to ensure vaccine availability and vaccine quality. Vaccine availability is an unexpected but ongoing need for vaccine, which can be guaranteed by safely storing available stocks. The vaccines quality will be maintained with a low and stable temperature and humidity, including security protection from foreign body contamination and the risk of accidents. The histogram of this variable is described as follows:

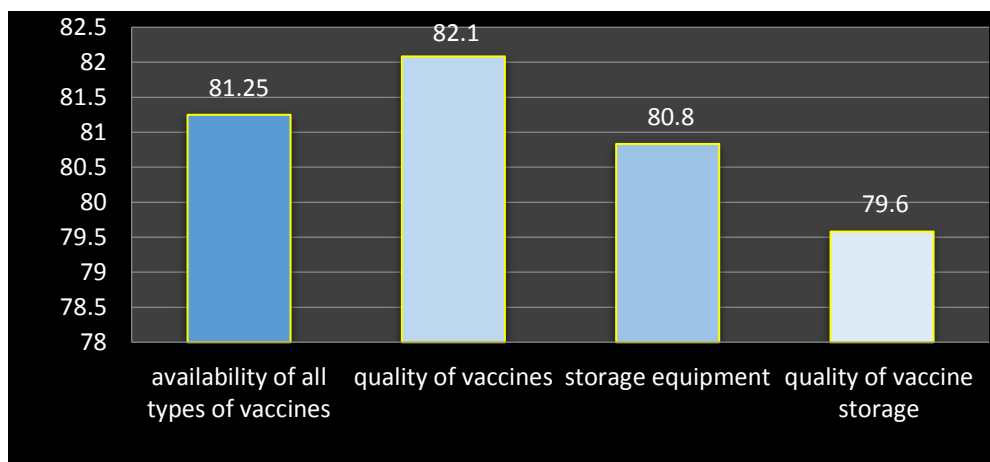


Figure 5. Histogram of Respondents' Perceptions Regarding

*the Availability of Vaccines and Equipment*  
 Source: Primary Data, 2022

Furthermore, the budget support variable (Variable X<sub>3</sub>) was the respondent's perception of financing for the development of vaccine quality and types (70.04%), vaccine service financing (74.2%), KIE funds (65.8%), socialization funds (61.8%), monitoring and evaluation funds (60%), training funds (65.4%), and network development funds (65%). The average result showed a cumulative percentage weight of 66.1%, while the socialization fund indicated the lowest perceptual assessment of this variable. The following histogram presents the above information visually.

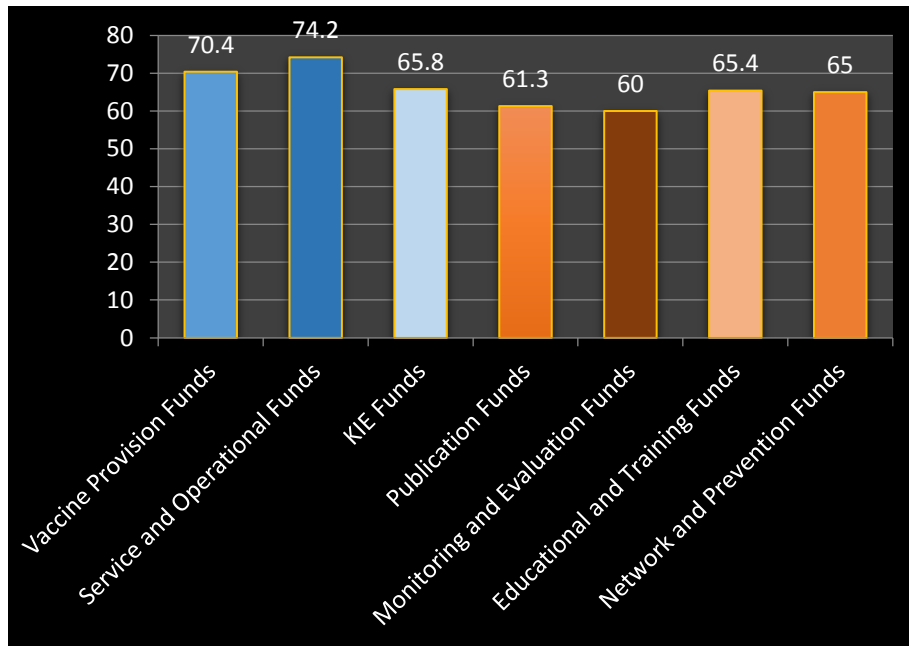


Figure 6. Histogram of Respondents' Perceptions Regarding Budget Support  
 Source: Primary Data, 2022

Moreover, the variable of implementing personnel was developed into seven indicator items: perceptions of leadership supervision, perceptions of supporting facilities, perceptions of vaccines and their equipment, perceptions of compensation, perceptions of workload, pro-active attitude, and work motivation. The results of the questionnaire for the seven items are presented in the following histogram:

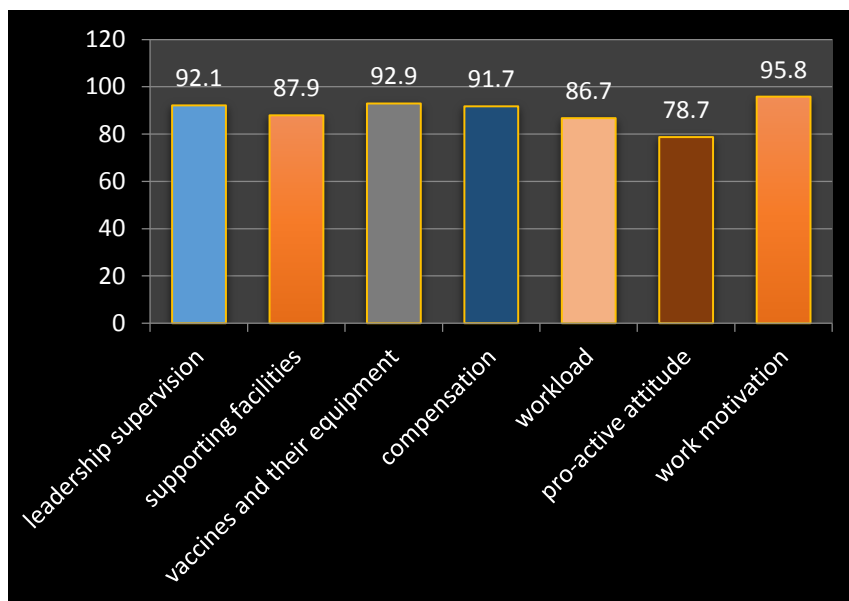




Figure 7. Histogram of Respondents' Perceptions of Implementing Personnel  
Source: Primary Data, 2022

Perception of the X<sub>4</sub> variable had a weighted percentage of 89.4% of the maximum weight. Thus, a very positive perception indicates the role of the IDL program implementing personnel. From this average, the minimum weight occurred on the items of the pro-active attitude of personnel in serving the community (78.7%). In addition, work motivation weighted 95.8%, which thus has the potential to be directed and developed. The carrying capacity of implementing personnel can also be seen from the highly positive perception of supervision (92.1%). Then, the rest showed perceptions of supporting facilities (87.9%), perceptions of vaccines and equipment (92.9%), perceptions of compensation (91.7%), and workload (86.7%).

For the multiple regression inferential statistical analysis, the classical assumption test was performed. The Classical assumption test in the form of normality test on variable data X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, and Y with SPSS 20.0 application. Ghozali (2011) states that the regression model is said to be normally distributed if the plotting data describing the variable data follow a diagonal line. Based on the quoted opinion, the data points for the variables X<sub>1</sub>(Dukungan Infrastruktur/Infrastructure Support), X<sub>2</sub> (Ketersediaan Vaksin dan Peralatannya/availability of vaccine and its equipment), X<sub>3</sub>(Dukungan Anggaran/Budget Supports), X<sub>4</sub> (Tenaga Pelaksana/Implementing Personel) and Y(Keberhasilan IDL/IDL Success) followed the diagonal line and concluded that the data distribution was normal. The second classical assumption test is a multicollinearity test, carried out with the help of the SPSS 20.00 application. The multicollinearity test is seen from the Collinearity Statistics column, where according to Ghozali (2011), there is no multicollinearity if the Tolerance value is > 0.100 and the VIF value is < 10.00. In this study, the four variables (X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> showed a tolerance value of 0.100 and a VIF value < 10.00. Thus, the variables X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> did not show symptoms of multicollinearity. The third classic assumption test is the heteroscedasticity test. According to Ghozali (2011), there is no heteroscedasticity if there is no clear pattern (not narrowing, not wavy, not widening) and the points spread past point 0 on the scatterplot. Figure 9 shows the scatterplot diagram of the data variables X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> randomly spread with points above and below point 0 on the X and Y axis. Thus, it is concluded that the data for this research variable did not occur heteroscedasticity.

The autocorrelation test was based on the calculated value of the Durbin-Watson column with the calculated value = 2.011. According to Ghozali (2011), there is no symptom of autocorrelation if Durbin Watson's arithmetic value is between du to (4-du). In this research, the value of du in the Durbin-Watson table for the four independent variables (Column 4 du) with the 48th row N was 1.7206, and the value of 4-1.7206 was 2.2794. Thus, it is concluded that there was no autocorrelation since the calculated value of Durbin Watson (2.011) was between 1.7206-2.2794.

As the classical assumptions fulfilled, the regression test could be performed. Previously, a simple regression analysis was carried out to see the effect of each variable X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, and X<sub>4</sub> on Y. The simple regression test results can be seen in Table 1. In the Sig. column, according to Ghozali (2011), there is an effect of the independent variable on the dependent variable if the value of Sig. < 0.05. The following conclusions from the simple analysis results are presented in the table below:

**Table 1**  
**Conclusion of Simple Regression Analysis**

Independent Variable	t-value	Sig. value	Conclusion
X <sub>1</sub>	2.731	0.009	Affecting Y
X <sub>2</sub>	1.435	0.159	No effect on Y
X <sub>3</sub>	0.380	0.706	No effect on Y
X <sub>4</sub>	3.322	0.002	Affecting Y

Source: Data interpolation, 2022

Determining the partial effect of the independent variable on the dependent variable is done by comparing the t-count with the t-table (Sujarweni, 2015), where the formula is:

$$t_{\text{table}} = (\alpha/2; n - k - 1) = (0.025; 48 - 4 - 1)$$

$$t_{\text{table known}} = 2.731$$

**Infrastructure Support Variable Affects The Success Variable of The IDL Program**

Respondent's perception of the X1 variable showed a very positive assessment weight, averaging 90% of the maximum score. The availability of accessible health facilities was indicated to have the lowest weight (84.2%), while the availability of official vehicles and information technology weighed above 90%. The availability of transportation allowed the implementing personnel to reach remote areas. Moreover, considering that the Talang Padang and West Pendopo Sub-districts people are scattered in remote hamlets and talang-talang, transportation will support the successful implementation of the immunization program by increasing the access of officers to reach the community (Arieboowo, 2005).

Computer information technology also connects the public and implementing personnel, accesses real-time information, and shortens data collection and registration. In addition, communication is spread through messages and social media. Information technology then increases the knowledge and awareness of mothers and strengthens their behavior changes in parenting, care, and improving the quality of infant health (Susanti & Kadir, 2021). If the availability of health facilities at the epicenter of the communities and the affordability of health facilities increases, infrastructure support to increase the success of the IDL program can be better. Increasing health facility centers in remote areas of Sumatera will provide significant results for community health there (Sihaloho et al., 2021).

### **The Variable of Availability of Vaccine and Equipment Does not Affect The Variable Success of The IDL Program**

In this study, the four indicator items revealed a weight of 80.9%. It indicates that the average respondent perceived the variable positively. Bar histograms also showed a positive assessment of the availability of vaccine types (81.2%), vaccine quality (82.1%), quality of existing equipment (79.6%), and availability of vaccine storage equipment (80.8%). However, all items were below 85%. The availability of vaccines and equipment also did not significantly affect the IDL program's success variable in Talang Padang and West Pendopo Sub-districts. It was due to the qualitative measure of IDL success only on the level of smooth implementation of the IDL program. Meanwhile, several other measures are quantitative (UCI membership and universal coverage area). If the impact on health measures success, the quality of the vaccine is a significant consideration (Maharani et al., 2020).

Vaccine storage facilities and infrastructure are also essential in immunization administration. The quality of the storage device will maintain the cold vaccine chain. Thus, this management needs to improve incinerator equipment and cool boxes (Rizki et al., 2020). It is also necessary to improve the quality of immunization equipment to ensure vaccine availability and safety. In addition, good equipment aims to maintain vaccine quality (Setyawan, Arief; Adi M, Sakundarno M.; Widijanarko, 2020). However, the availability of vaccines related to complete primary immunization is a problem in remote areas (Afrizal et al., 2020). Moreover, given the reality of the geographical condition of the region, the access and economic capacity of the Talang Padang and West Pendopo Sub-districts people, it is necessary to carry out priority scale management, in which some of these considerations need to convey to the policymakers. Based on these conditions, data collection, assessment, and calibration are necessary to maintain the equipment's quality, apart from increasing the equipment's quantity.

### **The Budget Support Variable Does Not Affect The Success Variable Of The IDL Program**

Respondents' perceptions regarding financing for the development of vaccine quality and types were 70.04%, vaccine service financing was 74.2%, KIE funds were 65.8%, socialization funds were 61.8%, monitoring and evaluation funds were 60%, training fund was 65.4%, and network development fund was 65%. The average result also uncovered that the cumulative percentage weight was 66.1%. It makes the budget have no (significant) effect on the success rate of IDL achieved in Talang Padang and West Pendopo Sub-districts. In this case, some regions had problems with immunization budgeting. This problem was due to the dependence of the immunization budget on the central budget and donors (Yulianti & Indriasih, 2018). The data also revealed the average perception of funds for socialization and evaluation monitoring was below 70%. IDL is one of health service program under National Social Security Board (Rahayu & Sasman,



2017). Previous research has also shown a lag in the fund allocation for this stage, even though it has been proposed in the BOK (Maharani et al., 2020).

The scarcity of fund resource will imply to stakeholder's consistency (Yandra et al., 2021). Therefore, it is necessary to develop alternatives for collecting immunization funds from other sources (donations, allocation of regional funds, and others), and community health centers need to build capacity for planning, management, and accountability of the health budget.

### **The Implementing Personnel Variable Affects The IDL Program's Success Variable**

Perception of the  $X_4$  variable had a weighted percentage of 89.4% of the maximum weight. The pro-active attitude of implementing personnel in serving the community was 78.7%, and work motivation weighted 95.8%; thus, it has the potential to be directed and developed. Also, the carrying capacity of implementing personnel can be seen from a very positive perception of supervision (92.1%). Perception of supporting facilities was 87.9%, perception of vaccines and equipment was 92.9%, perception of compensation was 91.7%, and the workload was 86.7%.

In other words, the implementing personnel affected the success variable of the IDL program in Talang Padang and West Pendopo Sub-districts. Implementing motivation factors are also vital in improving the performance of immunization services and even during the COVID-19 pandemic (Wahyuni & Hadi, 2022). In addition, a positive perception is a determinant in improving the performance of health services (Alexsander, 2019). It is the cause of the influence of the implementing personnel variable on the success of the IDL program amid limited resources and budget. Through coping behavior mechanisms, field implementers can develop simplification patterns to deal with and carry out their assigned tasks (Alexsander; Widianingsih, Ida; Nurasa, Heru; Sumadinata, 2019).

### **Multiple Regression Test and Coefficient of Determination**

Furthermore, to determine the effect of variables  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$  on  $Y$ , simultaneously, multiple regression tests/simultaneous F-tests were carried out. It is stated (Ghozali, 2011) that when the value of Sig. < 0.05, the independent variable simultaneously affects the dependent variable.

With a value of Sig = 0.001 < 0.005, based on the requirements, the null hypothesis was rejected. Another way was done with the F-table test, which can also be done by comparing the F-count against the F-Table. It is stated that (Sujarweni, 2015) if the F-count > F-Table, the independent variable simultaneously affects the dependent variable. In addition, the interpolation results of the F-Table at  $df_1 = 4$  and  $N = 43$  showed the value = 2.58, where the F-count (6.029) > F-Table (2.58).

Based on these two analyzes, it is concluded that the variables  $X_1$ ,  $X_2$ ,  $X_3$ , and  $X_4$  simultaneously affected the  $Y$  variable. In other words, the factor of the adequacy of health infrastructure (variable  $X_1$ ), the factor of availability of vaccines and equipment (variable  $X_2$ ), the factor of health budget support (variable  $X_3$ ), and the factor of implementing personnel (variable  $X_4$ ), simultaneously, affected the success of the implementation of complete primary immunization program (Variable  $Y$ ) in the West Pendopo and Talang Padang Sub-districts, Empat Lawang Regency, South Sumatra Province.

The influence of the factor of the adequacy of health infrastructure (variable  $X_1$ ), the factor of availability of vaccines and equipment (variable  $X_2$ ), the factor of health budget support (variable  $X_3$ ), and the factor of implementing personnel (variable  $X_4$ ), simultaneously, on the successful implementation of the complete primary immunization program (Variable  $Y$ ) can be seen from the table Summaryb, where the value of R Square = 0.359

It had a moderate effect on the success of the implementation of the complete primary immunization program (Chin in Ghozali 2011). To find out the regression value, all variables are included in the formula :

$$y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4$$

or become an equation where:

$$y = -7.987 + 0.066 X_1 + 0.207X_2 + 0.033X_3 + 0.408X_4$$

Thus, the success of the Complete Primary Immunization Program can be increased by increasing the variables  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  by one unit with a constant = -7.987. Given the negative constant, the large unit value of the predictor variable will increase the value of  $Y$  to be positive. This means that increasing the success of the Complete Primary Immunization Program

requires serious and large efforts to improve infrastructure, implementing personnel, and especially improvements to the vaccine and equipment factors and financial support.

## Conclusions

Perceptions of the successful achievement of the complete primary immunization program in Talang Padang and West Pendopo Sub-districts, Empat Lawang Regency, on average, were above 80%. Perception of IDL coverage in rural areas was 92.1%, UCI achievement was 92.1%, an indication of problems occurring in the smooth functioning of the IDL program was 82.9%, and compliance of implementing personnel was 87.5%.

Partially, the infrastructure support variable affected the success variable of the IDL program. However, the variable availability of vaccines and equipment did not affect the success variable of the IDL program. The variable of budget support also did not affect the success variable of the IDL program. Meanwhile, implementing personnel variables influenced the IDL program's success variable.

Jointly, the factor of the adequacy of health infrastructure (variable X1), the factor of availability of vaccines and equipment (variable X2), the factor of health budget support (variable X3), and the factor of implementing personnel (variable X4), simultaneously, affected the success of program implementation of complete primary immunization (Variable Y) in the West Pendopo and Talang Padang Sub-district. When the availability of health facilities at the epicenter of the communities and the affordability of health facilities increase, the infrastructure support to increase the success of the IDL program is possible to better in Empat Lawang Regency, South Sumatra Province. The geographical condition of the area, access, and the community's economic capacity in the Talang Padang and West Pendopo Sub-districts require priority scale management, in which some of these considerations need to be conveyed to the policymakers. Based on these conditions, data collection, assessment, and calibration are required to maintain the quality of the equipment, aside from increasing the quantity of the equipment.

It is also necessary to develop alternatives for collecting immunization funds from other sources (donations, capitation, allocation of regional funds, and others), and community health centers need to build the capacity for planning, management, and accountability of the health budget. Implementing personnel has a noticeably considerable influence on the success of the IDL program in Talang Padang and West Pendopo Sub-districts. Implementing motivational factors is, therefore, crucial in improving the performance of immunization services and even during the COVID-19 pandemic. In addition, it is necessary to consider and propose special regional incentives for field health workers, Empat Lawang Regency, South Sumatra Province.

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